New England Common Assessment Program

Practice Test Resource Material

Grade 5

Mathematics

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Grade 5 Mathematics

Session 1—Non-Calculator

Position Number	Item Type	Correct Answer	Content Strand	GLE Stem Number	Depth-of-Knowledge Level
1	Multiple-choice (1 pt.)	B	Geometry & Measurement	6	2
2	Multiple-choice (1 pt.)	A	Numbers & Operations	2	2
3	Multiple-choice (1 pt.)	C	Data, Statistics & Probability	4	2
4	Multiple-choice (1 pt.)	A	Numbers & Operations	3	2
5	Short-answer (1 pt.)	N/A	Geometry & Measurement	4	2
6	Short-answer (2 pts.)	N/A	Functions & Algebra	3	2
7	Short-answer (2 pts.)	N/A	Numbers & Operations	1	2

Session 2—Calculator Active

Position Number	Item Type	Correct Answer	Content Strand	GLE Stem Number	Depth-of-Knowledge Level
8	Multiple-choice (1 pt.)	C	Data, Statistics & Probability	1	2
9	Multiple-choice (1 pt.)	B	Numbers & Operations	1	2
10	Multiple-choice (1 pt.)	B	Functions & Algebra	1	2
11	Multiple-choice (1 pt.)	D	Geometry & Measurement	1	1
12	Short-answer (1 pt.)	N/A	Numbers & Operations	1	2
13	Constructed-response (4 pts.)	N/A	Geometry & Measurement	1	3

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Non-Calculator Short-Answer Item (2 points)

6 Nathan, Alicia, and Taylor each ride to school on a bike.

- Nathan rides his bike m miles.
- Alicia rides her bike 3 times as many miles as Nathan does.
- Taylor rides his bike 4 more miles than Nathan does.

a. Use m to write an expression for the number of miles Alicia rides her bike.

b. Use m to write an expression for the number of miles Taylor rides his bike.

Scoring Guide

Score	Description
2	Student answered both parts correctly.
1	Student answers one part correctly.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Sample Responses:

Part a: $3 \cdot m$ or equivalent

Part b: $m + 4$ or equivalent

* All students were provided the same amount of space in which to write their answers. For the purposes of this document, extraneous white space was removed from each student work sample to save space.

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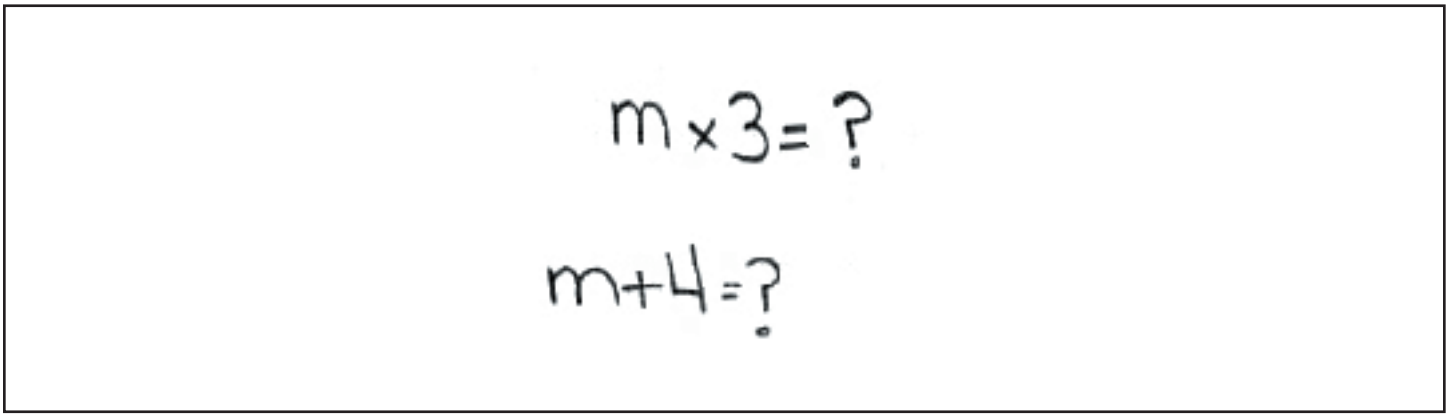
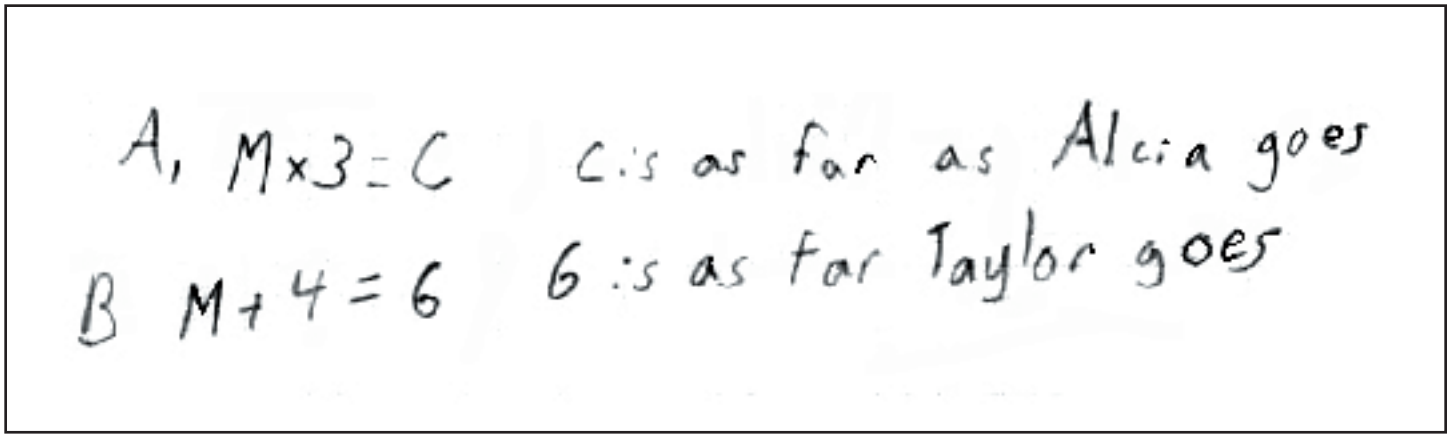
Sample 2-Point Response A



Sample 2-Point Response B



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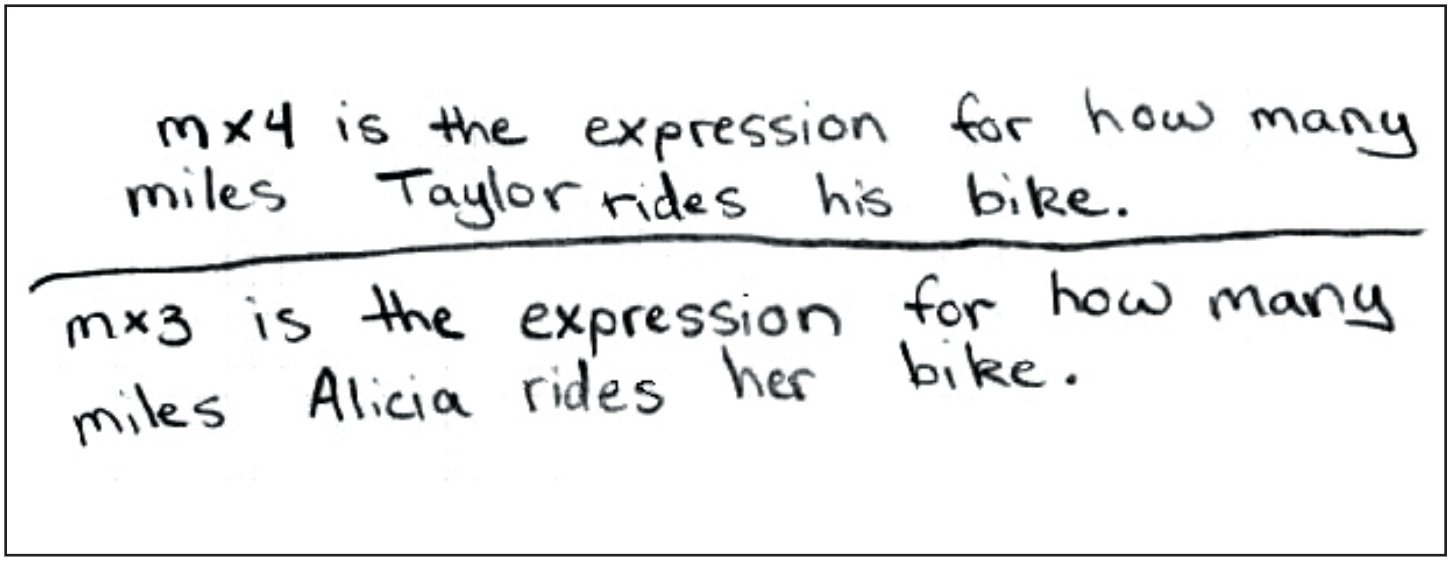
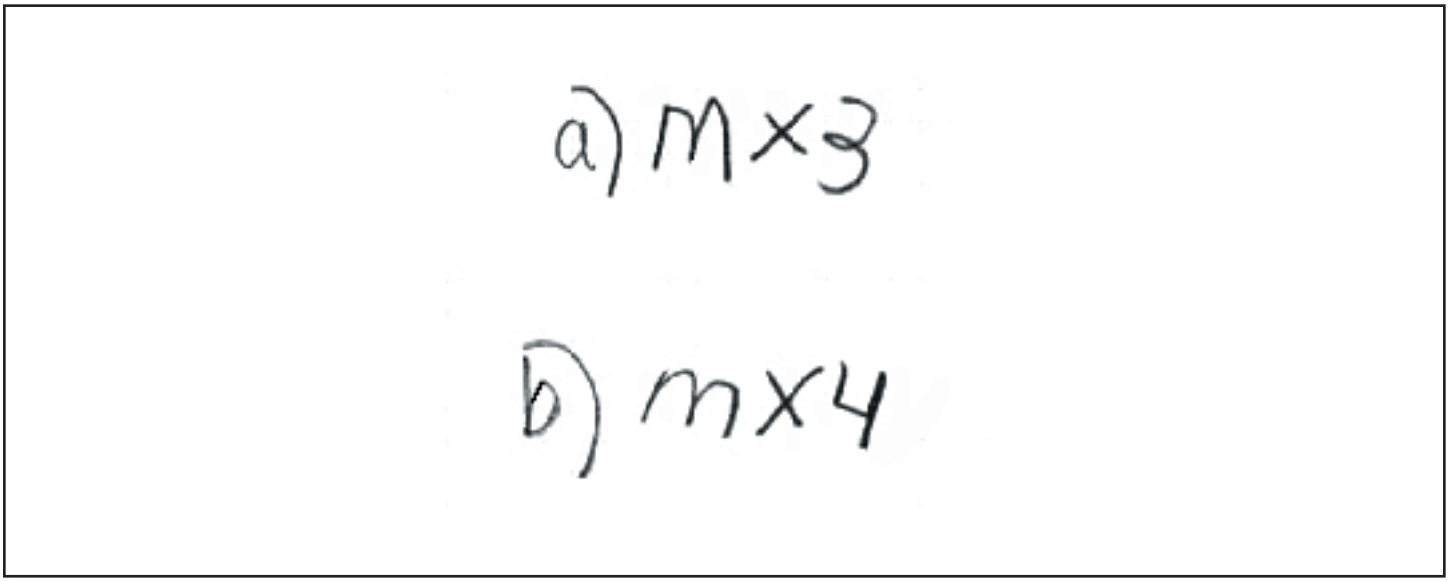
Sample 1-Point Response A



Sample 1-Point Response B



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Calculator-Active Short-Answer Item (2 points)

7 Look at this number sentence.

747 = 22 tens + □ hundreds + △ ones.

Find one number for □ and one number for △ that make the number sentence true. Show your work or explain how you know.

Scoring Guide

Score	Description
2	Student gives correct values for the square and triangle that, when added, will make the number 747 and provides appropriate work or explanation.
1	Student gives correct values for the square and triangle but does not provide work or explanation. OR Work or explanation provided shows correct strategy but there is a computation error.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Sample Responses:

Square = 5 and Triangle = 27; 747 – 220 = 527 = 5 hundreds plus 27 ones

Square = 4 and Triangle = 127; 747 – 220 = 527 = 4 hundreds plus 127 ones

Square = 3 and Triangle = 227; 747 – 220 = 527 = 3 hundreds plus 227 ones

Square = 2 and Triangle = 327; 747 – 220 = 527 = 2 hundreds plus 327 ones

Square = 1 and Triangle = 427; 747 – 220 = 527 = 1 hundreds plus 427 ones

Square = 0 and Triangle = 527; 747 – 220 = 527 = 0 hundreds plus 527 ones

* All students were provided the same amount of space in which to write their answers. For the purposes of this document, extraneous white space was removed from each student work sample to save space.

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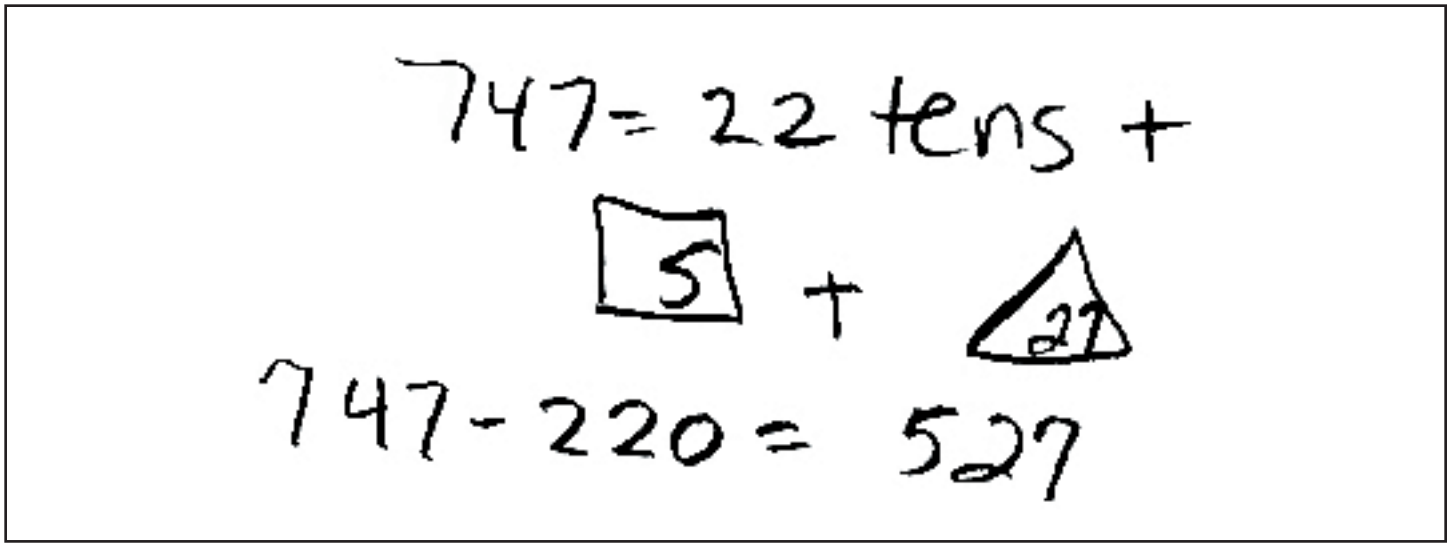
Sample 2-Point Response



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Sample 1-Point Response

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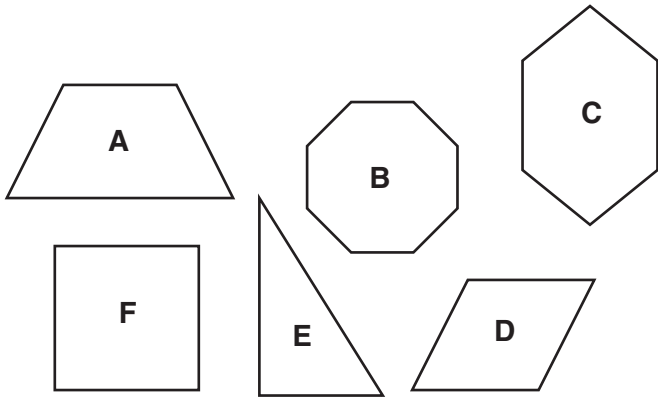
Calculator-Active Constructed-Response Item (4 points)

13 Mr. Grimaldi asked his class to identify a mystery shape from these shapes.



He gave the class these two clues.

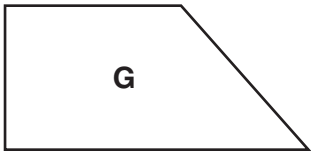
Clue 1: The mystery shape has fewer than 5 sides.

Clue 2: The mystery shape does **not** have any 90° angles.

a. Using the clues, the class determined that the mystery shape is one of two shapes. What are those two shapes?

b. Pick one shape you identified in part a. What additional clue could Mr. Grimaldi give as Clue 3 that would identify **only** that shape as the mystery shape? Explain your reasoning.

Later, Mr. Grimaldi added this shape to the 6 shapes above.



c. Write one or more clues that could identify this new shape as the only mystery shape.

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Calculator-Active Constructed-Response Item (4 points)

Scoring Guide

Score	Description
4	5 points.
3	4 points.
2	2 or 3 points.
1	1 point. OR Minimal understanding by giving one correct property of one of the polygons.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Training Notes:

Part a: 1 point for the correct answers, A and D.

Part b: 2 points for identifying one of the shapes given in part a, AND providing a clue that distinguishes it from the other shape given in part a, AND providing an explanation for the answer.

OR

1 point for identifying one of the shapes AND providing a clue that distinguishes it from the other shape given in part a, but there is no explanation given for the answer.

OR

for some correct strategy shown.

Part c: 2 points for a correct clue or for correct clues that distinguish this shape from every other shape given. There is no incorrect information.

OR

1 point for providing a clue or clues that distinguish this shape from every other shape given, but there is also some incorrect information given.

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Calculator-Active Constructed-Response Item (4 points)

Sample Responses:

Part b: Shape A is the mystery shape if Clue 3 is "The mystery shape has one pair of parallel sides" or "The mystery shape has two equal sides."

Shape D is the mystery shape if Clue 3 is "The mystery shape has two pairs of parallel sides" or "The mystery shape has sides that are all equal."

Part c: Clue 1: The mystery shape has 4 sides.

Clue 2: The mystery shape has one pair of parallel sides.

*Clue 3: The mystery shape has 2 angles that are 90°.

*Note: If student uses Clue 3, no other clues are needed to lead to Shape G.

* All students were provided the same amount of space in which to write their answers. For the purposes of this document, extraneous white space was removed from each student work sample to save space.

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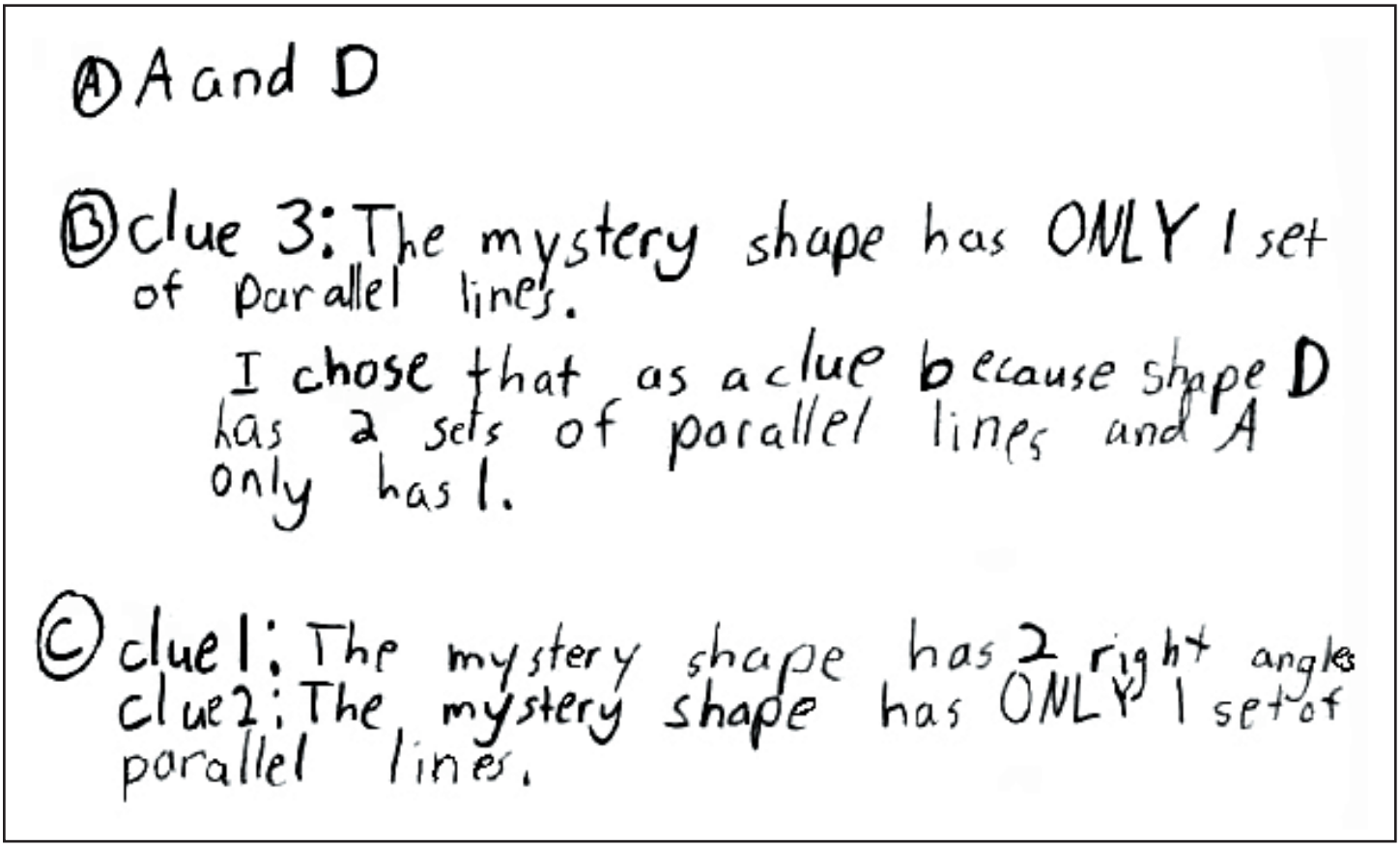
Sample 4-Point Response



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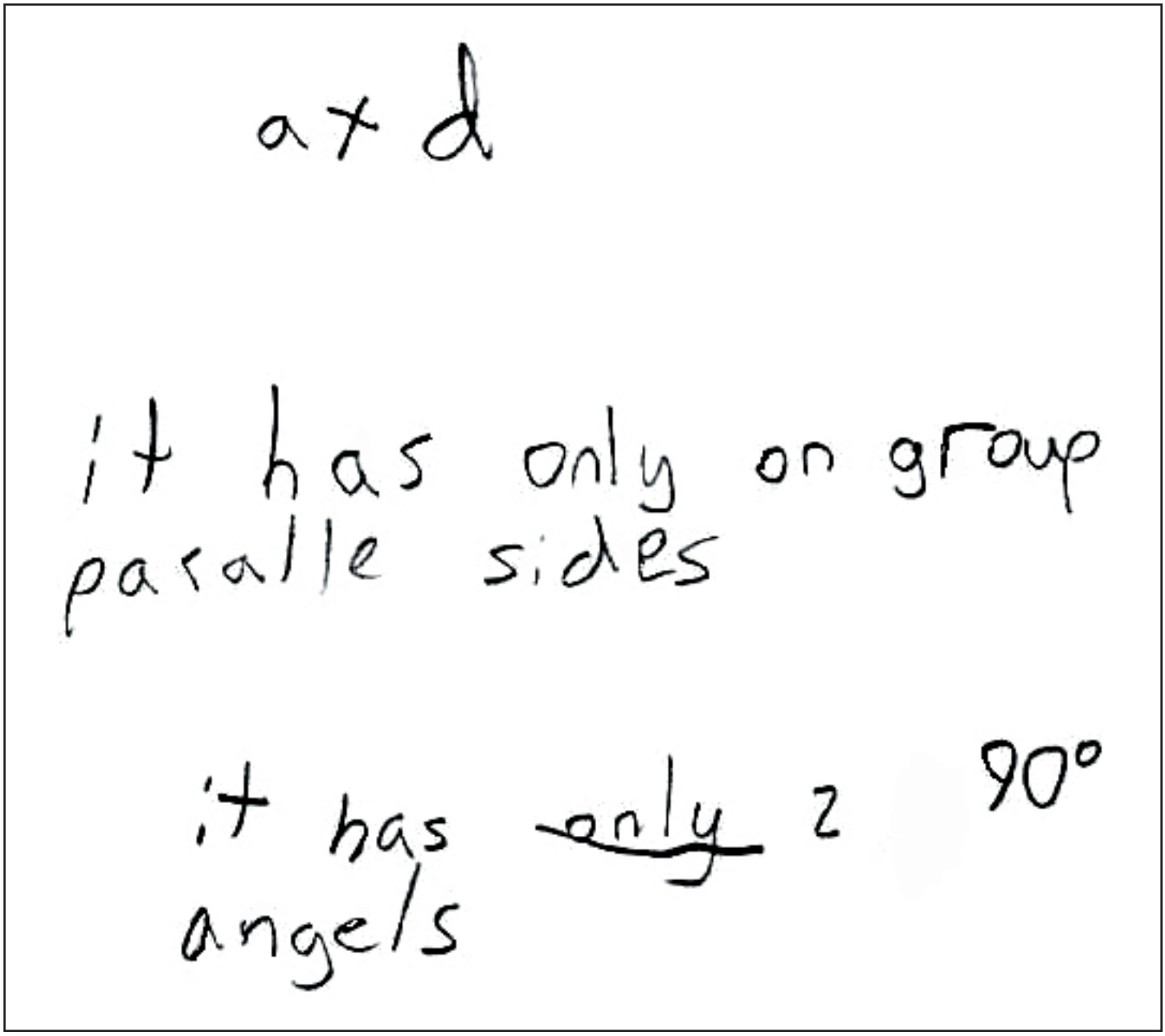
Sample 3-Point Response A



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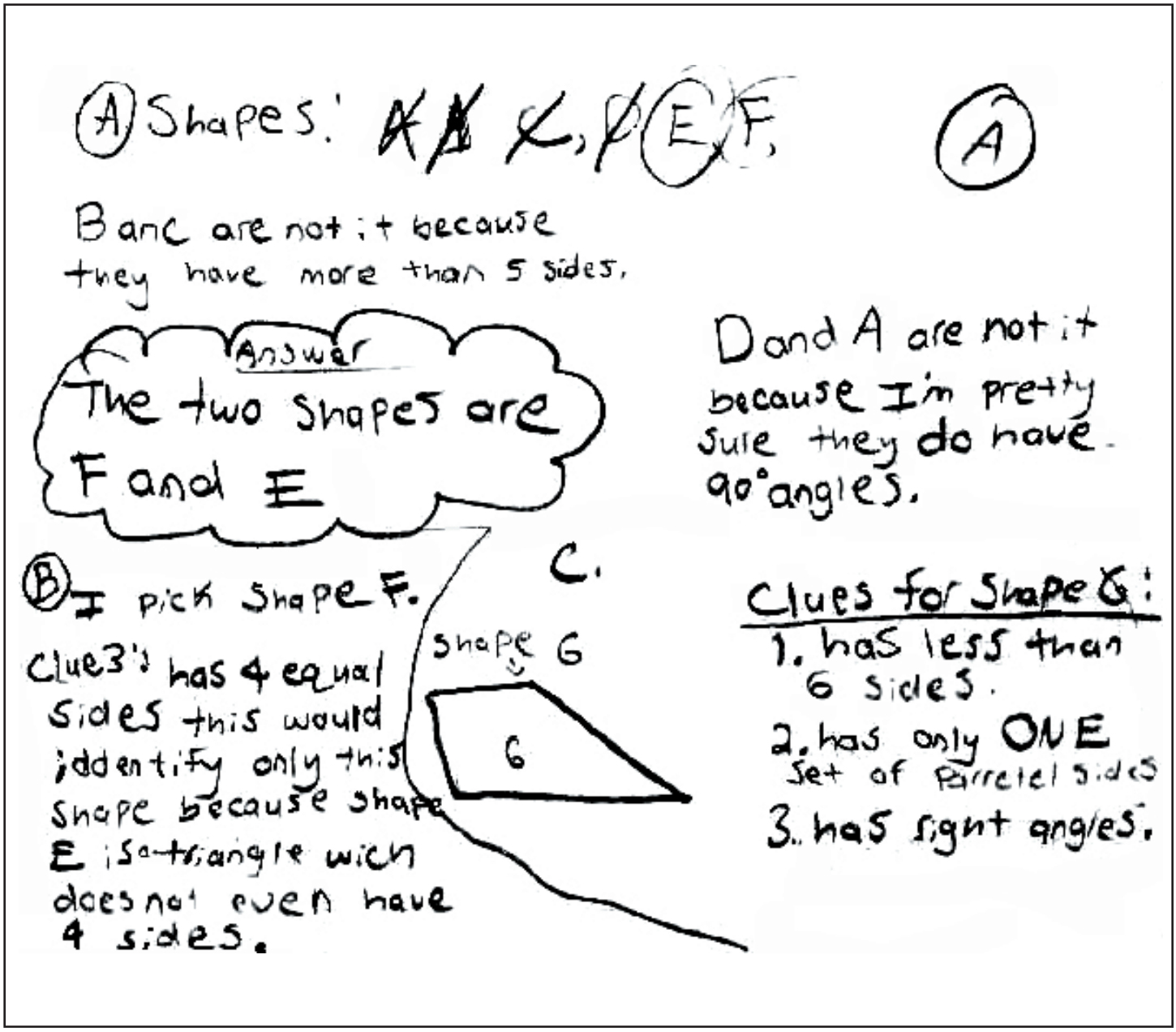
Sample 3-Point Response B



Sample 2-Point Response A

a. The trapazoid A, and the other shape D.

b. The mystery shape is half of a hexegon.

C. The mystery shape has a pair of parallel sides.
The mystery shape has 1 90° angle.
The mystery shape has a 50° angle.

Sample 2-Point Response B

A - a and d because they both have under 5 sides and have no 90° angles

B - it has only 2 70° angles

C It has 2 90° angles and 2 60° angles

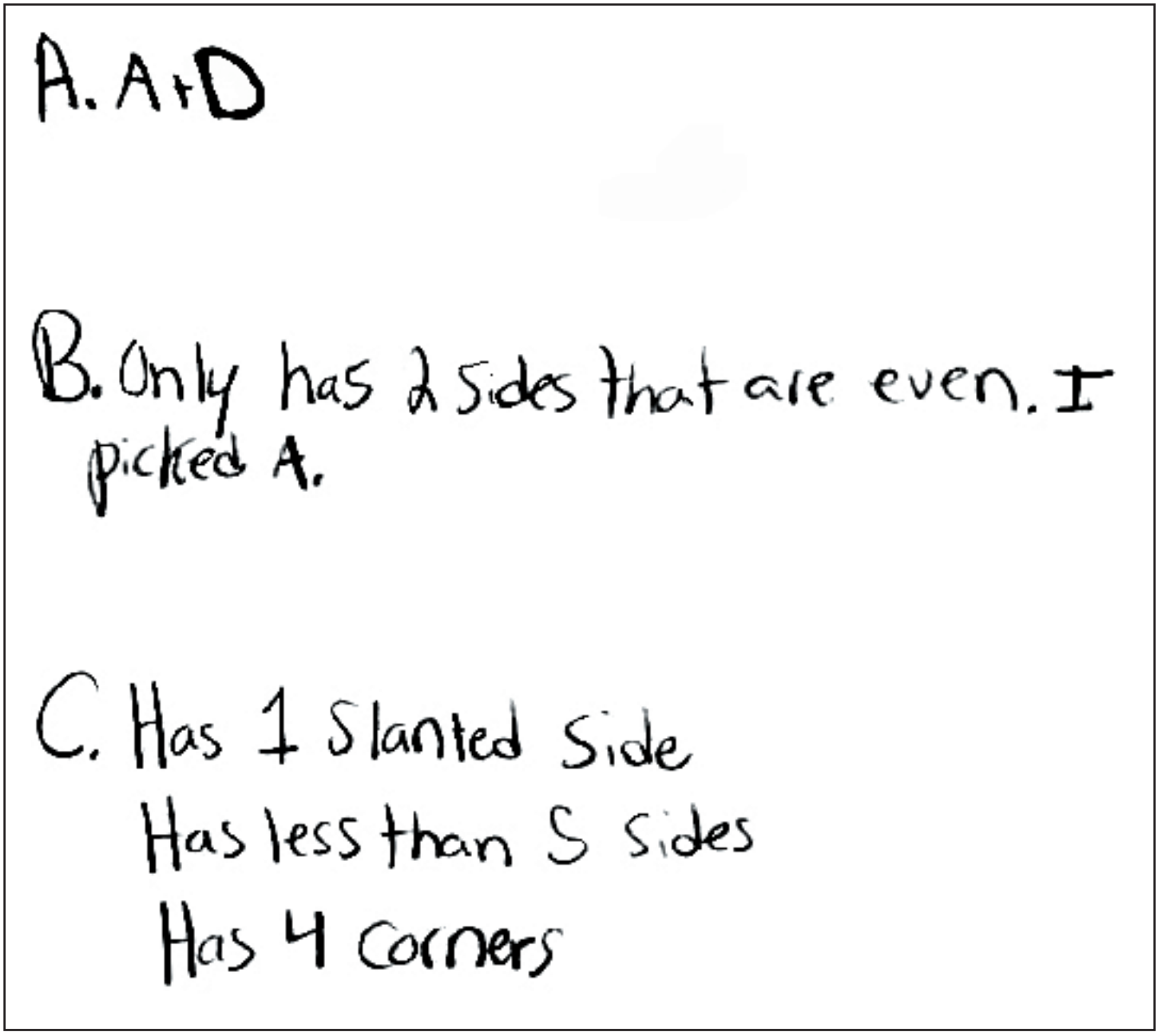
Sample 2-Point Response C

(a A and D D=  A= 

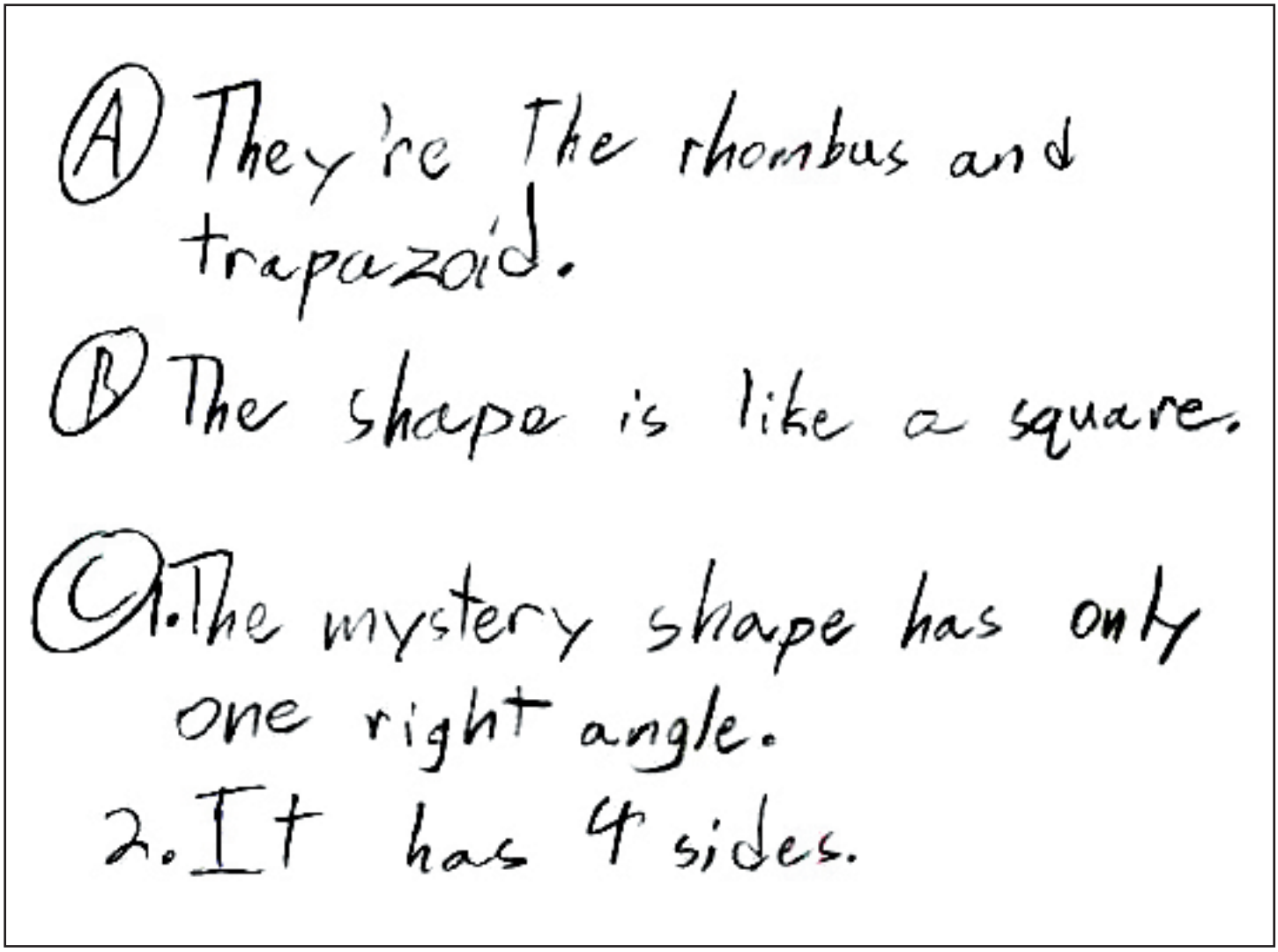
(b tow pairs of its sides are the same length and go the same way

(c three sides are strait one is slanted.

Sample 1-Point Response A



Sample 1-Point Response B



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Sample 1-Point Response C